

REMARKS

Claims 1-4, 6-8, 10-15, 17-21, and 23-36 are pending in the application.

In response to the Amendment filed October 7, 2003, the Examiner maintained most of the previous claim rejections, but modified the rejections of claims 31, 32, and 35. The current status of the claims is the following.

Claims 1, 3, 4, 7, and 8 are rejected under 35 U.S.C. § 102(b) as being anticipated by previously-cited Verdiell et al. (US 5,870,417, hereafter "Verdiell").

Claims 1, 3, 4, 7, and 8 are rejected under 35 U.S.C. § 102(b) as being anticipated by previously-cited Hamakawa et al. (US 5,995,692, hereafter "Hamakawa").

Claims 1, 2, 6, 10-15, 17-21, 23-29, and 33 are rejected under 35 U.S.C. § 102(b) as being anticipated by previously-cited Kawai et al. (US 6,345,138, hereafter "Kawai").

Claims 30, 34, and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of prior art FIG. 17 and the prior art disclosure.

Claims 31 and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of Suzuki (US 4,796,264) or Yokogawa (US 4,787,078).

Claim 32 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai in view of prior art FIG. 17 and the prior art disclosure, and further in view of Suzuki or Yokogawa.

Applicant responds to the Office Action, as set forth below.

As a preliminary matter, Applicant cancels claims 11 and 13.

For the rejection of claims 1, 3, 4, 7, and 8 over Verdiell, Applicant submits that Verdiell does not teach or suggest all of the limitations of independent claim 1. Specifically, Verdiell does not disclose an optical waveguide that is disposed on the other side of the semiconductor

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light-emitting device. Claim 1 recites that the wavelength selector is disposed on one side of the semiconductor light-emitting device and the optical waveguide is disposed on the other side of the semiconductor light-emitting device. The Examiner refers to the fiber 40 as the optical waveguide and reference number 43 in FIG. 2 as the wavelength selector. However, as shown in FIG. 2, Verdiell discloses that the wavelength selector 43 is part of the optical fiber 40, and thus the wavelength selector 43 and the optical fiber 40 are on the same side of the semiconductor light emitting device. Hence, claim 1 and its dependent claims 3, 4, 7, and 8 are not anticipated by Verdiell.

Also, Applicant submits that Verdiell does not teach or suggest the feature of claim 1 of the external resonator being constituted by an end facet, on the opposite side from said semiconductor light-emitting device, of said optical waveguide device, and said wavelength selector. The Examiner points to the end facet 34 as allegedly corresponding to the claimed end facet, but Applicant respectfully disagrees. As claimed, the end facet of claim 1 is an end facet of the optical waveguide device on the opposite side from the semiconductor light-emitting device. By contrast, the end facet 34 of Verdiell is an end facet of the semiconductor light-emitting device shown in FIG. 2. Thus, claim 1 and its dependent claims 3, 4, 7, and 8 are not anticipated by Verdiell for this additional reason.

With respect to the rejection of claims 1, 3, 4, 7, and 8 over Hamakawa, Applicant submits that Hamakawa fails to disclose the feature of claim 1 of an optical waveguide that is disposed on the other side of the semiconductor light-emitting device. As noted above, claim 1 recites that the wavelength selector is disposed on one side of the semiconductor light-emitting device and the optical waveguide is disposed on the other side of the semiconductor light-

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emitting device. By contrast, the optical waveguide device 23 of the reference is disposed on the same side as the wavelength selector 21. As shown in FIG. 6, the wavelength selector 21 cited by the Examiner is part of the optical waveguide device 23. Therefore, claim 1 and its dependent claims 3, 4, 7, and 8 are not anticipated by Hamakawa for at least this reason.

Additionally, Applicant submits that Hamakawa fails to disclose or suggest the external resonator being constituted by an end facet, on the opposite side from said semiconductor light-emitting device, of said optical waveguide device, and said wavelength selector, as recited by claim 1. The end facet 120 cited by the Examiner is part of the semiconductor light emitting device 1, rather than part of the optical fiber 250, as shown in FIGS. 6 and 7. As recited in claim 1 of the present invention, the end facet is an end facet of the optical waveguide device and is on the opposite side from the semiconductor light-emitting device. Thus, Hamakawa fails to disclose this feature of claim 1, and claims 1, 3, 4, 7, and 8 are not anticipated by Hamakawa, for this additional reason.

Regarding the rejection of claims 1, 2, 6, 10-15, 17-21, 23-29, and 33 over Kawai, Applicant submits that Kawai does not teach or suggest the feature of claim 1 of the external resonator being constituted by an end facet, on the opposite side from said semiconductor light-emitting device, of said optical waveguide device, and said wavelength selector. Although Applicant argued this point in the previous Amendment, the Examiner's response is not persuasive. In the "Response to Arguments" on page 9 of the Office Action, the Examiner states that the fiber gratings 122-1 and 122-2 constitute ends of the optical resonator in Kawai. Further, the Examiner asserts that "an end facet (122-1 or 122-2) of the optical waveguide (110/120) constitutes one end of the resonator." However, it is clear from FIG. 12 of Kawai that the fiber

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gratings 122-1 and 122-2 are not end facets of the optical waveguide 110 or the optical fiber 120. Rather, the fiber gratings 122-1 and 122-2 are within the optical fiber 120, and the end facets of the optical waveguide 110 shown in the figure are disposed in contact with the semiconductor laser 100. In other words, the end facets of fiber gratings 122-1 and 122-2 are not end facets of the optical waveguide 110. Thus, claims 1, 2, 6, 10-15, 17-21, 23-29, and 33 are not anticipated by Kawai for the above-noted reasons, as well as the reasons presented in the Amendment filed October 7, 2003.

For the rejection of claims 30, 34, and 36 over Kawai in view of prior art FIG. 17 and the prior art disclosure, Applicant submits that there is no suggestion or motivation to combine the references. The Examiner asserts that the motivation for combining the references would have been to resonate a desired light frequency within a resonant cavity. However, as disclosed in the present specification beginning on page 1, the conventional art already disclosed resonating a desired light frequency within a resonant cavity. Thus, there would be no motivation to modify the teachings of the prior art disclosure to include a feature already present in the conventional art. Therefore, claims 30, 32, 34, and 36 are allowable over the prior art. Applicant notes here that Applicant argued this point in the October 7 Amendment, but the Examiner did not respond to the argument.

Regarding claims 31 and 35, Applicant submits that there is no suggestion or motivation to combine the references. The Examiner asserts that the motivation to combine the references would have been to obtain a driver capable of pumping the active medium to a desired energy level. However, Kawai discloses an optical fiber output semiconductor device, which has high power. As described in col. 2, lines 36-45, Kawai discloses increasing power by extending the

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active layer. There is no suggestion to replace this manner of increasing power by providing the drive circuit allegedly disclosed in Suzuki or Yokogawa. Thus, claims 31 and 35 are allowable over the prior art.

With respect to the rejection of claim 32, Applicant submits that claim 32 is allowable over the prior art, at least because of its dependence from claim 31.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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23373

CUSTOMER NUMBER

Date: March 18, 2004